THE INVENTION CLAIMED IS:

1. A method of adhesive bonding by induction heating, comprising:

providing at least two substrates to be bonded;

providing a susceptor structure therebetween, said susceptor structure having a length, width, and thickness, said structure including at least one layer of an electrically conductive material, said structure including at least one layer of an adhesive material proximal to at least one of its outer surfaces, said structure being of a first characteristic by which said at least one layer of electrically conductive material generates an eddy current when exposed to a magnetic field of a predetermined minimum intensity, and said structure being of a second characteristic by which said at least one layer of electrically conductive material exhibits a thickness in the range of 0.01 mils (0.25 microns) through 3 mils (76 microns).

2. The method as recited in claim 1, wherein said thickness is in the range of 0.05 mils (1.3 microns) through 2 mils (51 microns).

3. The method as recited in claim 2, wherein said thickness is in the range of 0.1 mils (2.5 microns) through 1 mil (25 microns).

4. The method as recited in claim 1, wherein said susceptor contains aluminum as an alloy or layer or both, and said aluminum-containing component exhibits a thickness in the range of 0.01 mils (0.25 microns) to 2 mils (51 microns).

5. The method as recited in claim 4, wherein said thickness is in the range of 0.01 mils (0.25 microns) through 0.75 mils (19 microns).

6. The method as recited in claim 5, wherein said thickness is in the range of 0.01 mils (0.25 microns) through 0.55 mils (14 microns).

7. The method as recited in claim 1, wherein said magnetic field alternates at a frequency in the range of 1 kHz through 1 MHz, inclusive.

8. The method as recited in claim 7, wherein said magnetic field alternates at a frequency in the range of 10-500 kHz, inclusive.

9. The method as recited in claim 1, further comprising: exposing said susceptor structure to a magnetic field during a heating event at an average power density in the range of 10-5000 Watts per square inch of susceptor area, inclusive.

10. A method of adhesive bonding by induction heating, comprising:

providing at least two substrates to be bonded;

providing a susceptor structure therebetween, said susceptor structure having a length, width, and thickness, said structure including at least one layer of an electrically conductive material, said structure including at least one layer of an adhesive material proximal to at least one of its outer surfaces, said structure being of a first characteristic by which said at least one layer of electrically conductive material generates an eddy current when exposed to a magnetic field of a predetermined minimum intensity; and

exposing said susceptor structure to a magnetic field during a heating event for a time interval in the range of 0.05-10 seconds, inclusive.

11. The method as recited in claim 10, wherein said time interval is in the range of 0.1-5 seconds, inclusive.

12. The method as recited in claim 11, wherein said time interval is in the range of 0.1-2 seconds, inclusive.

13. The method as recited in claim 10, wherein said magnetic field alternates at a frequency in the range of 1 kHz through 1 MHz, inclusive.

14. The method as recited in claim 13, wherein said magnetic field alternates at a frequency in the range of 10-500 kHz, inclusive.

15. The method as recited in claim 10, further comprising: exposing said susceptor structure to a magnetic field during a heating event at an average power density in the range of 10-5000 Watts per square inch of susceptor area, inclusive.

16. A method of adhesive bonding by induction heating, comprising:

providing at least two substrates to be bonded;

providing a susceptor structure therebetween, said susceptor structure having a length, width, and thickness, said structure including at least one layer of an electrically conductive material, said structure including at least one layer of an adhesive material proximal to at least one of its outer surfaces, said structure being of a first characteristic by which said at least one layer of electrically conductive material generates an eddy current when exposed to a magnetic field of a predetermined minimum intensity; and

exposing said susceptor structure to a magnetic field during a heating event at an average power density in the range of 10-5000 Watts per square inch of susceptor area, inclusive.

17. The method as recited in claim 16, wherein said average power density is less than or equal to 1000 Watts per square inch.

18. The method as recited in claim 16, wherein said average power density is less than or equal to 500 Watts per square inch.

19. The method as recited in claim 16, wherein said magnetic field alternates at a frequency in the range of 1 kHz through 1 MHz, inclusive.

20. The method as recited in claim 19, wherein said magnetic field alternates at a frequency in the range of 10-500 kHz, inclusive.